

THE AMERICAN BAR FOUNDATION RESEARCH STUDY

ON

THE LAWS RELATING TO ACTIVITIES IN SPACE

Contract NSR 14-041-001

Cumulative Report as of March 31, 1965

UNPUBLISHED PRELIMINARY DATA

The Research Committee approved the Space Law project at its meeting of January 31, 1964. The Research Committee recommended that the study should be an independent study and not a new edition of the previous report. The question of establishing an Advisory Committee was discussed and references were made to the 1958-61 space law study. The Board of Directors gave its approval to the project during a May 1964 meeting.

A contract between the National Aeronautics and Space Administration and the American Bar Foundation was executed as of August 31, 1964. Formal notice was received in mid-September. The President of the Board appointed an Advisory Committee of seventeen members with Arthur Dean as Chairman.

Tentative arrangements previously made with Professor Howard Taubenfeld of SMU Law School were confirmed to him by letter of September 16, 1964. Professor Taubenfeld had agreed to devote at least a third of his time to the project during the academic year and substantially all of his time during the summers of 1965 and 1966. Interim holidays will be devoted primarily to the Space Law Study.

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S. Houston Lay of the Foundation Staff is devoting as nearly half of his time to the Space project as possible.

To the extent materials are available most of the basic research, especially in foreign language materials, is being done in the Chicago area. To accomplish this, graduate and advanced law students with various language abilities have been employed as research assistants to search out and abstract foreign language legal literature on the law of space. Research assistants are presently working on materials in the following languages: French, Spanish, Portuguese, German, Italian, Turkish, Japanese, Russian, Polish and other Eastern European languages. No materials in Chinese have been located thus far. Suitably qualified students to research the Scandinavian, Netherlands and Arabic languages have not thus far been located in the Chicago area. Houston Lay will be in Washington the latter part of April to attend the American Society of International Law meeting and while there, will endeavor to complete arrangements with law students from George Washington and Georgetown Universities to complete the research which cannot be accomplished in Chicago or Dallas.

A check of materials in the native languages of India and Pakistan has been unproductive. Two short articles in the Finnish language were obtained from the Finnish Bar Association in Helsinki and are being abstracted. Professor Taubenfeld has one graduate student working as a part time research assistant.

It might be noted that qualified legal scholars from small countries are likely to write on space law in English or one of the major languages of Western Europe. Also, much of the material in

languages other than English, Russian, French and German tends to be derivative.

Foreign language materials on space law have been borrowed from various libraries throughout the country. Most English language material is available in the Chicago area or by interlibrary loan. The University of Chicago has been very helpful in acquiring materials for the Law School library which would be useful in the space law study.

S. Houston Lay and Howard Taubenfeld are in frequent communication on the subject and conferred personally in mid-November in Dallas and at the December AALS meeting in Chicago. They will meet in Washington the latter part of April at the meeting of the American Society of International Law. They have completed a rough working outline which is subject to frequent revisions. It will not be put into smooth form as a table of contents until most of the drafting is completed. Parts of the working outline were recently revised and it has been retyped as of April 15, 1965. Although this report is as of March 31, 1965 a copy of the April 15 revision is attached for information on the anticipated coverage of the subject matter. A further revision will be worked out when Lay and Taubenfeld meet in Washington in late April.

Professor Taubenfeld has assumed responsibility for initial study and drafting on the following points:

1. The Space environment.
2. Nature of man's activity in space.
3. The legal status of space and space vehicles.
4. The United Nations and affiliated agencies.
5. Military activities.

Houston Lay has assumed responsibility for initial study and drafting on the following points:

1. Space communications.
2. Liability for damages.
3. Treaty development relating to space activities.
4. Conservation of space.
5. Allocation of resources.

There is much overlap between all of these items and cooperative effort will be required on all of them. This is particularly true of the last three items of each list. Thus it now appear that treaty development can probably be handled most satisfactorily as a part of the discussion under the other substantive headings rather than separately. Conservation of space and allocation of resources are very closely related and as research and drafting progress it may develop that these two subjects will become lined with the material on the legal status of space.

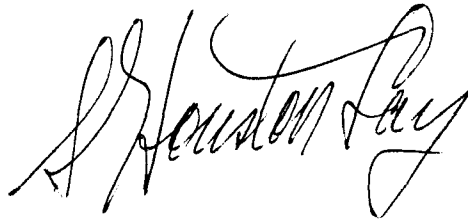
The last heading of the outline; IX Space Law for the Future, will be in the nature of a summary of findings and recommendations.

Professor Taubenfeld has commenced some preliminary drafting and outlining in detail on the nature of man's activities in space and the questions of sovereignty and jurisdiction in space. Houston Lay has commenced preliminary drafting on the subject of damages and liability and is preparing a revision of the outline relating to this subject. Taubenfeld and Lay have both continued their reading and research.

As long range target dates it is hoped to complete most of the substantive research by midsummer of 1965 and have a substantial

amount of substantive material in draft by the end of September 1965. It is hoped to have a preliminary manuscript in draft by January 1, 1966 and a completed manuscript ready for the editorial staff by the end of June 1966 and to a publisher by August 1, 1966.

A recommendation has been made to Arthur Dean, chairman of the Advisory Committee on Space Law that a meeting of the Committee be called late this summer, probably at the time of the August ABA meeting in Miami.

A handwritten signature in cursive script, appearing to read "Houston Lay". The signature is written in dark ink and is located in the lower right quadrant of the page.

## The Law Relating to Activities of Men in Space

### I. Introduction

#### A. The Space Environment

##### 1. Dimensions and Motion

##### 2. Physical Characteristics

###### a. Gases

###### b. Radiations

###### c. Celestial Bodies

###### 1) Solar System

###### 2) Beyond the Solar System

###### d. Man Made Objects in Space

### II. The Nature of Man's Activities in Space

#### A. Current and Predictable Role of Man in Space

##### 1. Space Vehicles, Present and Predictable

###### a. Ballistic Missiles

###### b. Orbiting Satellites

###### c. Air Space Vehicles and Hybrids

###### d. Problems

###### 1) Launch

###### 2) Return and Recovery

###### 3) Communications

B. The Range of Activities

1. Scientific

- a. Earth
- b. Atmosphere and Weather
- c. Solar System
- d. Cosmos
- e. Nature of Life

2. Commercial

- a. Communications
- b. Transportation
- c. Natural Resources
- d. Settlement
- e. Application of Technology to non Space Sectors of  
Economy

3. Political and Military

- a. International Prestige
- b. Weapons Systems
- c. Intelligence and Observation Systems
- d. Communications

4. Interdependence of Scientific, Commercial and Military  
Activities

5. Practical Limitation to the Solar System

- a. Extraterrestrial Life

### III. In General

#### A. The Legal Status of Space

1. National Interests in Airspace
2. National Claims in Outer Space
3. Outer Space as Res Communis
4. Applicable National and International Controls and Regimes
5. Airspace and Outer Space: Division by Line or by Function

#### B. Sovereignty and Control: National and International

1. Definitional Problems
2. Jurisdiction (Persons, Things)
  - a. National
    - 1) The Territorial Principle Bases, Exemptions
    - 2) Nationality
    - 3) Passive Personality or Objective Territoriality
    - 4) Protective Principle
    - 5) Principle of Universality
    - 6) The Limits of National Sovereignty
  - b. International
    - 1) Standard Concepts (e.g. Piracy)
    - 2) United Nations Standards
    - 3) Proposed Treaties

3. The Special Problem of Overflights

- a. Analogies from the Seas
- b. Legality Based on Purpose
- c. The Development of Law by Operation Without Protest

C. The Status of the Astronaut and His Vehicle

1. Problems of Definition

2. Purposes of Jurisdiction and Control

3. The Astronaut:

- a. Definition
- b. Jurisdiction over (Country of: Nationality, Launching, Spacecraft Nationality, Landing, Country Affected)
- c. Treatment
  - 1) Nature of Activity
  - 2) Immunity
  - 3) U.N. Resolutions
  - 4) Treaties
- d. Duty to Assist

4. The Spacecraft

- a. Definition
- b. Classifications (by Purpose, Fuel, Propulsion, Number of Stages, Orbit, Destination, Ownership, Payload)
- c. Status (Problems of Identification)

- 1) Nationality
- 2) Registration
- 3) Sea Law Analogies
- 4) Air Law Analogies
- 5) Status of Acts on Board (Reprise)

5. Rescue and Return

- a. General Analogies
- b. United Nations Resolutions
- c. Proposed Treaties
- d. Obligation in Accordance with Vehicles Nature

6. Derelicts

IV. The Legal Problems of Communications Utilizing Space

- A. Technological Developments in Space Communications
- B. Relationship between Satellite Communication Systems and Conventional Systems
  1. Conflicts with Agencies Regulating non Space Systems
  2. Impact of National Policies
- C. International Organizations
- D. Treaties, Executive Agreements and Quasi Public International Agreements
- E. Ownership of Communications System and Relations between Nations
  1. Capital Investment and Profit Sharing
  2. Design, Construction and Supply of Equipment
  3. International Political Considerations

F. Administration of Space Communications

1. Policy Formulation

- a. Interim Communications Satellite Committee
- b. National Organizations, Public and Private
- c. Government and Business Influence

2. COMSAT and Corresponding Foreign Agencies, Public or Private

3. Controls and Penalties; Authorized and Implemented

4. Military and Commercial Communications

G. Precedents from Non-Space Communications Arrangements

1. Assignment of Radio Frequencies

2. Cost, Ownership and Control of Terminal & Relay Stations

3. Transfer of Messages from Radio Systems to Telegraph Systems

4. Costs, Controls and Ownership of Cables between Nations

5. Censorship Problems

H. Space Communication Law as Precedent

1. Other Peaceful Uses of Space

- a. Weather Reporting and Control
- b. Scientific Measurements of Earth and its Characteristics
- c. Space Exploration
- d. Questions of Damages

2. Patterns of Cooperation between Nations

## V. Liability for Injuries Resulting from Activities in Space

### A. Hazards Which May Give Rise to Claims

1. Impact of Spacecraft or Fragments with Surface of Earth
2. Collisions Involving Spacecraft in Air Space or Outer Space
3. Pollution
  - a. Earth's Surface
  - b. Air
  - c. Space
  - d. Celestial Bodies
4. Interference with Communications
5. Interference with or Altering Weather
6. Invasion of Privacy
7. Miscellaneous

### B. Goals

1. Peaceful Resolution of Problems
  - a. U.S. Views
  - b. Communist Bloc Views
2. Encouragement of Useful Activities in Space
3. Prevention of Accidents in Space
4. Compensation to Victims
  - a. Equitable Allocation of Liability for Injuries
  - b. Questions of Universal Compensation
    - 1) Analogies to Liability for Other Activities
    - 2) Cost to Space Program

### C. Theories of Liability

#### 1. Liability Based on Negligence

##### a. Problems of Proof

1) Complexity of Evidence

2) Availability to Claimant

a) Secrecy for Security Reasons

b) Location of Negligent Acts

3) Analogy of Aircraft Development and Difficulty  
of Establishing Standards of Care

##### b. Contributory Negligence

#### 2. Absolute Liability

a. Presumptions

b. Third Party Interference

c. Acts of God and Force Majeure

d. Negligence or Misconduct of Injured Party

3. Domestic Law of U.S. and U.S.S.R. as Influencing Factors

4. Principles of Liability in International Law

5. International Politico-Socio-Economic Decisions on  
Allocation of Cost of Space Program Required

### D. Parties Liable - Defendants

#### 1. Governments - Government Activities

a. Launching State

b. Launching Territory, Facility

c. Inter Governmental Groups

d. Government Controlled Activity

2. Private Enterprises

- a. Responsibility of Government for Activities of  
Its Nationals

3. International Guarantee Fund or Insurance

4. Joint and Several Liability

5. Identification

- a. Registration, Possession and Notification

6. Manufacturers' Liability

E. Claimants

1. Governments

2. Individuals, Natural and Juridical

- a. Government Representation or Sponsorship
- b. Subrogation

3. Nationals of State Liable

- a. Remedy Through National Courts

F. Interests Possibly Subject to Injury and Claim

1. Loss of Life

2. Personal Injuries

3. Property Damage

4. Space Contamination

5. Communications Interference

6. Violation of Peaceful Coexistence

7. Profits and Moral Damage

8. Costs, Interest and Collateral Losses

9. Earth Pollution
  10. Weather Information and Control
  11. Intelligence Collection - Military, Economic
  12. Invasion of Privacy
  13. Punitive Damages
    - a. Failure to Notify Launchings
    - b. Failure to Observe Safety Precautions
    - c. Aggressive or Non Peaceful Use of Space
    - d. Other
  14. Other
- G. Forum for Presentation of Claims
1. International Court of Justice
  2. National Courts
  3. International Ad Hoc Commissions
  4. Diplomatic Representations
  5. Forum Shopping
    - a. Limitations on Multiple Presentations of Same Claim
  6. Official Parties to Actions
    - a. Claimants
    - b. Defendants
  7. Requirements on Claimant
    - a. Return of Spacecraft and Crew to Launching Authority
    - b. Notifications to U.N. and Launching Authority
    - c. Other

8. Requirements on Defendant

- a. Notification of Launching
- b. Facilitate Identification
- c. Defendants Action or Failure to Act Could Not Defeat  
Valid Claim
- d. Other

9. Enforcement of Decisions and Awards

- a. Appeals

H. Law Governing Claims

1. International Law

- a. Treaties and Conventions
- b. Customary Law
- c. U.N. Resolutions
- d. Court Decisions

2. Complainants' Law

3. Defendants' Law

4. Analogies

- a. Air Law
- b. Sea Law
- c. Nuclear Activities
- d. Other

5. Statutes of Limitation

6. Limitations on Amount of Claims Awarded

VI. Conservation and Space Activities

A. Contamination of Space and Celestial Bodies

1. Biological Contamination
  2. Radio Active Material
  3. Man Made Space Junk
- B. Contamination of Earth by Space Materials
1. Biological Contamination
  2. Falling Debris
- C. Allocation and Control of Natural Resources
1. Weather
  2. Other Resources
- VII. The United Nations and Affiliated Agencies
- A. The General Assembly and Security Council
1. Development of Customary Law through U.N. Action
    - a. Space
    - b. Arms Control
  2. A Forum for Continuous Exchange of Views and Negotiations
- B. International Geophysical Year
- C. The Year of the Quiet Sun
- D. Affiliated Agencies, Official
1. U N E S C O
  2. I C A O
  3. I T U
  4. W M O
  5. I A E A
  6. W H O
  7. Others

E. Non-Governmental Organizations

1. International Astronautical Federation
2. International Council of Scientific Unions and Committee on Space Research
3. American Institute of Aeronautics and Astronautics
4. American Rocket Society
5. Institute of International Law
6. National, Regional and International Business Organizations
7. Others

F. Treaties and Conventions Having to do with Space Activities

1. Substantive Law Provided by Treaties
2. Comparison of Legal Effect of U.N. Resolutions and Treaties
  - a. U.S. Constitutional Questions
3. U.N. Resolutions and Relation to Customary Law
4. Negotiation of Treaties under U.N. Aegis

G. Cooperative Activities

1. Notification of Space Activities
2. Exchange of Technical and Scientific Activities
3. Development of Space Communications
4. Satellite Tracking
5. I G Y and Year of the Quiet Sun
6. Other

VIII. Military Space Activities

A. Peaceful Uses

1. U.N. Resolutions & Unilateral Declarations

2. Nuclear Test Ban Treaty

B. Military Intelligence Gathering

1. Photographic

2. Electronic

3. Atmospheric

4. Other

C. Weapon Delivery Systems

1. Ballistic Weapons - Conventional & Nuclear

2. Orbiting Weapons - Conventional & Nuclear

D. Military Bases

1. Military Bases in Orbit

2. Military Bases on the Moon

3. Military Bases on Earth for Use in Connection with Space  
Equipment

E. Aggressive Actions

1. Problems of Definition

F. Propaganda and Cold War

G. Disarmament and Balance of Power

IX. Space Law for the Future

A. Sources

1. Treaties

2. U.N. Resolutions and Other Actions

3. Custom and Usage

4. Court Decisions

5. Analogies

- B. International Legislative and Judicial Functions
- C. Special Role of the United States and Russia
- D. Good Will and Good Faith Negotiations and Efforts Required
- E. Relationship of Space Law to International Law Generally
  - 1. Law of Space Can Develop only as Part of General Body of International Law
  - 2. Unrealistic to Attempt to Establish International Regime to Control Space without Considering Related Problems
  - 3. Russia's Closed Society and Suspicions of the United States Remain Major Problem in Space Relationships as well as All Other International Relationships.